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PATENTS

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )

QUIRK ET AL. )

Serial No. 09/753,139 )

Filed: December 29, 2000 )

For: DESIGN AND USE OF ADVANCED ZINC )  
CHELATING PEPTIDES TO REGULATE )  
MATRIX METALLOPROTEINASES )

) Art Unit: 1646

) Examiner:

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Washington, DC 20231

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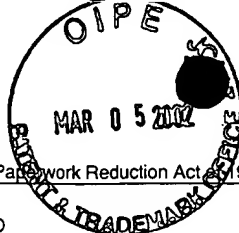
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Our Docket: 11301-0200 (44039-227522)  
K-C No. 15,518

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Theodore M. Green - Reg. No. 41,801



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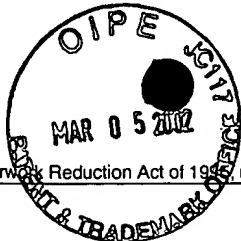
Application Number	09/753,139
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First Named Inventor	Stephen Quirk
Group Art Unit	1646
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Attorney Docket Number	11301-0200 (44039-227522)

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**U.S. PATENT DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	1	5,270,168		Grinnel, Frederick	12-14-1993	
	2	5,698,671		Stetler-Stevenson et al.	12-16-1997	
	3	5,464,822		Christophers et al.	11-07-1995	
	4	6,180,288 B1		Everhart et al.	01-30-2001	
	5	5,922,550		Everhart et al.	07-13-1999	
	6	6,221,579 B1		Everhart et al.	04-24-2001	
	7	6,060,256		Everhart et al.	05-09-2000	
	8	6,297,020 B1		Brock, David A.	10-02-2001	
	9	6,294,344 B1		O'Brien, Timothy J.	09-25-2001	
	10	6,280,687 B1		Golub et al.	08-28-2001	
	11	6,274,703 B1		Goldberg, Gregory I.	08-14-2001	
	12	6,258,548 B1		Buck, Robert L.	07-10-2001	
	13	6,235,539 B1		Carpenter, Charles	05-22-2001	
	14	6,225,127 B1		Thompson et al.	05-01-2001	
	15	6,203,757 B1		Lu et al.	03-20-2001	
	16	6,194,221 B1		Rehg et al.	02-27-2001	
	17	6,183,972 B1		Kuo et al.	02-06-2001	
	18	6,156,271		May, Keith	12-05-2000	
	19	6,143,506		Golub et al.	11-07-2000	
	20	6,140,134		Rittenburg, James H.	10-31-2000	
	21	6,136,610		Polito et al.	10-24-2000	
	22	6,127,139		Te Koppele et al.	10-03-2000	
	23	6,074,869		Pall et al.	06-13-2000	
	24	5,989,921		Charlton et al.	11-23-1999	
	25	5,985,675		Charm et al.	11-16-1999	
	25	5,939,331		Burd et al.	08-17-1999	
	27	5,916,521		Bunce et al.	06-29-1999	
	28	5,895,765		Rheinheimer et al.	04-20-1999	
	29	5,879,951		Sy, Vincent A.	03-09-1999	
	30	5,876,944		Kuo, Hai-Hang	03-02-1999	
	31	5,869,277		Stetler-Stevenson et al.	02-09-1999	
	32	5,798,273		Shuler et al.	08-25-1998	
	33	5,770,691		Fields et al.	06-23-1998	
	34	5,770,460		Pawlak et al.	06-23-1998	
	35	5,766,961		Pawlak et al.	06-16-1998	
	36	5,741,659		Ralls et al.	04-21-1998	
	37	5,736,341		Sorsa et al.	04-07-1998	
	38	5,731,162		Gatti et al.	03-24-1998	
Examiner Signature					Date Considered	

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Sheet **2** of **4****U.S. PATENT DOCUMENTS**

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	39	5,712,172		Huang et al.	01-27-1998	
	40	5,710,005		Rittenburg, James H.	01-20-1998	
	41	5,698,404		Strauss, III et al.	12-16-1997	
	42	5,670,381		Jou et al.	09-23-1997	
	43	5,656,503		May et al.	08-12-1997	
	44	5,641,636		Strauss, III et al.	06-24-1997	
	45	5,622,871		May et al.	04-22-1997	
	46	5,602,040		May et al.	02-11-1997	
	47	5,569,608		Sommer, Ronald G.	10-29-1996	
	48	5,559,041		Kang et al.	09-24-1996	
	49	5,541,069		Mortensen et al.	07-30-1996	
	50	5,496,453		Uenoyama et al.	03-05-1996	
	51	5,415,994		Imrich et al.	05-16-1995	
	52	5,382,346		Uenoyama et al.	01-17-1995	
	53	5,354,692		Yang et al.	10-11-1994	
	54	5,354,447		Uenoyama et al.	10-11-1994	
	55	5,332,479		Uenoyama et al.	07-26-1994	
	56	5,324,634		Zucker, Stanley	06-28-1994	
	57	5,275,785		May et al.	01-04-1994	
	58	5,188,938		Khanna et al.	02-23-1993	
	59	5,141,850		Cole et al.	08-25-1992	
	60	5,037,735		Khanna et al.	08-06-1991	
	61	4,999,285		Stiso, S. Nicholas	03-12-1991	
	62	4,956,302		Gordon et al.	09-11-1990	
	63	4,943,522		Eisinger et al.	07-24-1990	
	64	4,883,760		Heelies, Donald R.	11-28-1989	
	65	4,868,108		Bahar et al.	09-19-1989	

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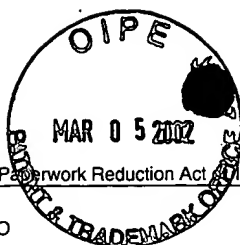
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**FOREIGN PATENT DOCUMENTS**

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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	66		EP 0 884 393 A1		Fuji Photo Film Co., LTD.	12-16-1998		
	67		EP 0 306 772 A1		Abbott Laboratories	03-15-1989		
	68		EP 0 833 159 A2		Becton, Dickinson and Co.	04-01-1998		
	69		EP 0 296 724 B1		Sargeant, Robert B.	01-18-1995		
	70		WO98/46787		Fuji Photo Film Co., LTD.	04-10-1998		
	71		WO98/39657		Quidel Corporation	06-03-1997		
	72		WO98/23958		Schleicher & Schull, Inc.	11-27-1996		
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Sheet **3**

of

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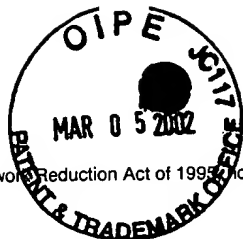
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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	73		WO98/22800		Wyntek Diagnostics, Inc.	11-19-1996		
	74		WO97/06439		Quidel Corporation	08-09-1995		
	75		WO96/33413		Wyntek Diagnostics, Inc.	04-18-1995		
	76		WO95/30903		Biocontrol Systems, Inc.	05-10-1994		
	77		WO94/10208		Miles, Inc.	10-29-1992		
	78		WO94/01775		Quidel Corporation	07-02-1992		
	79		WO92/12428		Quidel Corporation	01-11-1991		
	80		WO90/10062		Board of Regents, The University of Texas System	02-27-1989		
	81		WO91/11714		The United States of America, U.S. Dept. of Commerce	01-26-1990		
	82		WO00/31538		Praxsys Biosystems, Inc.	11-23-1998		
	83		WO00/20860		Calbiochem Novabiochem Corporation	10-08-1998		
	84		10232189 A		Unilever NV	02-14-1997		
	85		10160736 A		Becton Dickinson & Co. Millipore Corp.	09-25-1996		
	86		09206099 A		Sekisui Chem Co., LTD	01-31-1996		
	87		09136841 A		Polifarma Spa	08-07-1995		
	88		08226918 A		Fuji Yakuhin Kogyo KK	02-02-1995		
	89		08136548 A		Morinaga & Co., LTD	11-11-1994		
	90		06167497 A		Becton Dickinson & Co.	08-03-1992		

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**OTHER INFORMATION - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
	91	MALISZEWSKA ET AL. "Development of an ultrasensitive enzyme immunoassay for the determination of matrix metalloproteinases-9 (MMP-9) levels in normal human cerebrospinal fluid", <i>J. Neuroimmunol.</i> (2001) : 116(2), 233-238. Chemical Abstracts, 7-Enzymes, Vol. 135, No. 16., 135:223205.	
	92	WANG ET AL. "One-step sandwich enzyme immunoassay using monoclonal antibodies for detection of human enamelysin (MMP-20)", <i>Eur. J. Oral Sci.</i> (2000): 108(6), 530-537. Chemical Abstracts, 7-Enzymes, Vol. 134, No. 11., 134:143641f.	
	93	TERSTAPPEN, ET AL. "Methods and reagents for the rapid and efficient isolation of circulating cancer cells using immunomagnetic enrichment combines with flow cytometric and immunocytochemical analysis", <i>Immunivest; University of Texas Southwestern Medical Center/Dallas, USA</i> . PCT Int. Appl. WO99 41,613, 19 Aug 1999, US Appl. PV110,202, 30 Nov 1998; pp. 115. Chemical Abstracts, 9-Biochemical Methods, Vol. 131, No. 12, 1999, 131:155517w.	
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	94	BAKER ET AL. "Real-time monitoring of recombinant protein concentration in animal cell cultures using an optical biosensor", <i>Genet. Eng. Biotechnol.</i> (1997): 17(2&3), 69-74. Chemical Abstracts 16-Fermentation and Bioindustrial Chemistry, Vol. 128, No. 6, 1998, 128:60742q.	
	95	STIVERS, ET AL. "A miniaturized self-contained single-use disposable quantitative test for hemoglobin A1c in blood at the point of care", <i>Diabetes Technol Ther</i> (2000) Winter:2(4):517-26. PMID: 11469613	
	96	MALISZEWSKA ET AL. "Development of an ultrasensitive enzyme immunoassay for the determination of matrix metalloproteinases-9 (MMP-9) levels in normal human cerebrospinal fluid", <i>J Neuroimmunol</i> (2001), June 1:116(2):1-7. PMID: 11438179	
	97	WANG ET AL. "One-step sandwich enzyme immunoassay using monoclonal antibodies for detection of human enamelysin (MMP-20)" <i>Eur J Oral Sci</i> (2000) Dec;108(6):530-7. PMID: 11153928	
	98	HANEMAAIJER ET AL. "Increased gelatinase0A and gelatinase-B activities in malignant vs. benign breast tumors" <i>Cancer</i> (2000) Apr 15;86(2):204-7. PMID: 10738247	
	99	STEARNS ET AL. "Evidence for increased activated metalloproteinases 2 (MMP-2a) expression associated with human prostate cancer progression" <i>Incol Res</i> (1996);8(2):69-75. PMID: 8859777	
	100	MANICOURT ET AL. "An assay for matrix metalloproteinases and other proteases acting on proteoglycans, casein, or gelatin" <i>Anal Biochem</i> (1993) Dec;215(2):171-9. PMID: 8122775	
	101	COOKSLEY ET AL. "Immunoassays for the detection of human collagenase, stromelysin, tissue inhibitor of metalloproteinases (TIMP) and enzyme-inhibitor complexes" <i>Matrix</i> (1990) Oct;10(5):285-91. PMID: 1964712	
	102	HOFFMAN ET AL. "Matrix Metalloproteinases in Human Melanoma" <i>The Journal of Investigative Dermatology, Inc.</i> (2000) pp. 337-44.	
	103	TRENGOVE ET AL. "Analysis of the acute and chronic wound environments: the role of proteases and their inhibitors" <i>Wound Repair and Regeneration</i> , Nov.-Dec. (1999) pp. 442-52.	
	104	VAALAMO ET AL. "Differential Expression of Tissue Inhibitors of Metalloproteinases (TIMP-1, -2, -3, and -4) in Normal and Aberrant Wound Healing" <i>Human Pathology</i> Vol. 30, No. 7 (July 1999), pp. 795-802.	
	105	SOO ET AL. "Differential Expression of Matrix Metalloproteinases and Their Tissue-Derived Inhibitors in Cutaneous Wound Repair" <i>Inhibitor Expression in Wound Repair, Plastic and Reconstruction Surgery</i> (February 2000), pp. 638-647.	
	106	SAARIALHO-KERE, U.K. "Patterns of matrix metalloproteinases and TIMP expression in chronic ulcers" <i>Arch Dermatol Res</i> (1998) 290 (Suppl):S47-S54.	
	107	HEROUY ET AL. "Matrix metalloproteinases and venous leg ulceration" <i>Eur J Dermatol</i> 2000; 9: 173-80.	
	108	HEROUY ET AL. "Matrix metalloproteinases and venous leg ulceration" <i>Eur J Dermatol</i> Vol. 10, Issue 3, April-May 2000: 173-80, Review article.	
	109	WHITTAKER ET AL. "Matrix Metalloproteinases and their Inhibitors - Current Status and Future Challenges" <i>Celltransmissions</i> , Vol. 17, No. 1, pp. 3-14.	
	110	ZEMBOWER ET AL. "Novel Anthraquinone Inhibitors of Human Leukocyte Elastase and Cathepsin G" <i>J. Med. Chem.</i> 1992, 35, 1597-1605.	
	111	BREM ET AL. "Interstitial chemotherapy with drug polymer implants for the treatment of recurrent gliomas" <i>J Neurosurg</i> 1991 74:441-446.	
	112	SHAW ET AL. "Metalloproteinase inhibitors: new opportunities for the treatment of rheumatoid arthritis and osteoarthritis" <i>Exp. Opin. Invest. Drugs</i> (2000) 9(7):1469-1478.	
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